

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/05/01

Date Received: 06/21/01

Project: Sandblast Metals, PO# M66325

Date Extracted: 06/26/01

Date Analyzed: 06/26/01 and 06/27/01

**RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLE  
FOR TCLP METALS IN ACCORDANCE WITH  
40 CFR PART 261**

Results Reported as mg/L (ppm)

<u>Sample ID</u> Laboratory ID	<u>As</u>	<u>Ba</u>	<u>Cd</u>	<u>Cr</u>	<u>Pb</u>	<u>Se</u>	<u>Ag</u>
M66325 106107-01	<0.5	1.0	<0.1	<0.5	<0.5	<0.5	<0.5
Method Blank	<0.5	<1.0	<0.1	<0.5	<0.5	<0.5	<0.5
<i>TCLP Limits</i>	<i>5.0</i>	<i>100</i>	<i>1.0</i>	<i>5.0</i>	<i>5.0</i>	<i>1.0</i>	<i>5.0</i>

As Arsenic  
Ba Barium  
Cd Cadmium  
Cr Chromium  
Pb Lead  
Se Selenium  
Ag Silver

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

Date of Report: 07/05/01

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Project: Sandblast Metals, PO# M66325

### QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES FOR TCLP METALS IN ACCORDANCE WITH 40 CFR PART 261 Results Reported as mg/L (ppm)

Laboratory Code: 106107-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Arsenic	mg/L (ppm)	<0.5	<0.5	nm	0-20
Barium	mg/L (ppm)	<1.0	1.0	a	0-20
Cadmium	mg/L (ppm)	<0.1	<0.1	nm	0-20
Chromium	mg/L (ppm)	<0.5	<0.5	nm	0-20
Lead	mg/L (ppm)	<0.5	<0.5	nm	0-20
Selenium	mg/L (ppm)	<0.5	<0.5	nm	0-20
Silver	mg/L (ppm)	<0.5	<0.5	nm	0-20

Laboratory Code: 106089-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	% Recovery MS	% Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/L (ppm)	10	<0.5	104	101	50-150	3
Barium	mg/L (ppm)	5	<1.0	115	123	50-150	7
Cadmium	mg/L (ppm)	5	<0.1	105	99	50-150	6
Chromium	mg/L (ppm)	5	<0.5	102	97	50-150	5
Lead	mg/L (ppm)	10	<0.5	111	97	50-150	13
Selenium	mg/L (ppm)	10	<0.5	93	95	50-150	2
Silver	mg/L (ppm)	2	<0.5	88	78	50-150	12

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	% Recovery LCS	% Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/L (ppm)	10	101	100	80-120	1
Barium	mg/L (ppm)	5	105	109	80-120	4
Cadmium	mg/L (ppm)	5	103	104	80-120	1
Chromium	mg/L (ppm)	5	99	101	80-120	2
Lead	mg/L (ppm)	10	111	114	80-120	3
Selenium	mg/L (ppm)	10	96	95	80-120	1
Silver	mg/L (ppm)	2	87	93	80-120	7

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

SAMPLE CHAIN OF CUSTODY

6/21/01 CJ AL3

Send Report To GERARD A. Thompson  
 Company Alaska Copper Works  
 Address 628 S. Howard ST  
 City, State, ZIP Seattle WA 98025  
 Phone # (206) 382-8379 Fax # (206) 382-4309

SAMPLERS (signature) <u>[Signature]</u>	
PROJECT NAME/NO. <u>SAND test metals</u>	PO # <u>66325</u> <u>m 600</u>
REMARKS	

TURNAROUND TIME	
<input type="checkbox"/> Standard (2 Weeks) <input type="checkbox"/> RUSH	
Rush charges authorized by:	
SAMPLE DISPOSAL	
<input type="checkbox"/> Dispose after 30 days <input type="checkbox"/> Return samples <input type="checkbox"/> Will call with instructions	

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	ANALYSES REQUESTED										Notes
						TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS			TCAP for	RCRA metals	
M66325	01	6/21/01	1:00	SAND	1									✓		

Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282  
 Fax (206) 283-5044

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: <u>[Signature]</u>	<u>GERARD A. Thompson</u>	<u>ACW</u>	<u>6/21/01</u>	<u>11:22</u>
Received by: <u>[Signature]</u>	<u>ERIC YOUNG</u>	<u>FB Inc.</u>	<u>6</u>	<u>5:25</u>
Relinquished by:				
Received by:				



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Charlene Jensen, M.S.  
Yelena Aravkina, M.S.  
Bradley T. Benson, B.S.  
Kurt Johnson, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
TEL: (206) 285-8282  
FAX: (206) 283-5044  
e-mail: fbi@isomedia.com

July 5, 2001

Gerry Thompson, Project Manager  
Alaskan Copper Works  
628 South Hanford  
Seattle, WA 98134

Dear Mr. Thompson:

Included are the results from the testing of material submitted on June 21, 2001 from your Sandblast Metals, PO# M66325 project. A portion of the TCLP extract was sent to Analytical Resources, Inc. for total mercury analysis. The report generated by ARI will be forwarded to your office upon receipt.

Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

A handwritten signature in black ink, appearing to be 'Kurt Johnson', with a long horizontal line extending to the right.

Kurt Johnson  
Chemist

Enclosures  
ACU0705R.DOC

**FRIEDMAN & BRUYA, INC.**

**ENVIRONMENTAL CHEMISTS**

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July 5, 2001

**DUPLICATE COPY**

**INVOICE #01ACU0705-1**

Accounts Payable  
Alaskan Copper Works  
628 South Hanford  
Seattle, WA 98134

RE: Project Sandblast Metals, PO# M66325 - Results of testing requested by  
Gerry Thompson for material submitted on June 21, 2001.

1 sample analyzed for TCLP Metals by Method 6010/7470 @ \$180 per sample	<u>\$ 180.00</u>
Amount Due .....	\$ 180.00

FEDERAL TAX ID (b) (6)

FROM :

FAX NO. : 2062835044

Jul 10 2001 01:18PM P2

07/29/2001 15:28 2066217523

ANALYTICAL RESOURCES

PAGE 01

**ANALYTICAL  
RESOURCES  
INCORPORATED****INORGANICS ANALYSIS DATA SHEET**  
**TOTAL METALS**

Sample No: M66325

Lab Sample ID: DH34A

QC Report No: DH34-Friedman &amp; Bruya

LIMS ID: 01-10785

Project: 106107

Matrix: Water

Date Sampled: 06/20/01

Date Received: 06/26/01

Data Release Authorized: *[Signature]*

Reported: 07/06/01

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L
7470A	06/29/01	7470A	07/03/01	7439-97-6	Mercury	0.0001	0.0001 U

Post-It Fax Note	7571	Date	7/9/01	Time	1:18 PM
To	Nichole Costas	From	Stephenie Lucas		
Co./Dept.	Friedman	Co.	A21		
Phone #		Phone #			
Fax #	206 5644	Fax #			

U Analyte undetected at given RL

RL Reporting Limit

FORM-I

FROM :

FAX NO. : 2062835044

Jul 10 2001 01:18PM P1

FRIEDMAN & BRUYA, INC.  
ENVIRONMENTAL CHEMISTS

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e-mail: fbi@isomedia.com

## TRANSMITTAL

DATE: 7/10/01  
TO: Gery  
COMPANY: ACW PROJECT ID:  
FAX #: PHONE #:  
FROM: Michele

We are sending you the following:

# Pages/Documents (including cover sheet)	Description
2	Mercury results for M66325

These are transmitted as indicated:

☒ For your use ☐ For review and comment ☐ For your signature and return  
☐ As requested ☐ As noted ☐ Other \_\_\_\_\_

Remarks: \_\_\_\_\_

For items sent via Fax:

Original: Will Follow ☒ Will Not Follow ☐

## IMPORTANT

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FRIEDMAN &amp; BRUYA, INC./FORMS/TRANSMIT

Rev. 08-17-99

AKC-0009641